Cholangitis

Definition of cholangitis

- Inflammation and/or infection of the biliary tree
- Often referred to as 'biliary sepsis'

Epidemiology of cholangitis

- Rare but can be 1-2% post ERCP

Causes of cholangitis

- Obstruction of biliary tree secondary to gallstones (including Mirizzi's syndrome, gallstone-related oedema compressing biliary tree as opposed to gallstones themselves)
  - Commonest cause
- Infection post-ERCP
- Invasion by tumour
  - Pancreatic, cholangiocarcinoma, hepatocellular carcinoma, metastases
- Roundworm or liver fluke infection (common overseas)
- HIV cholangiopathy

Presentations of cholangitis

The following make up the classical 'Charcot's triad'

- Jaundice
- Fever
- RUQ pain - severe
  - Shock (due to sepsis) and confusion added to Charcot's triad = Reynold's pentad
- Jaundice may not always be present, especially if a patient already has a biliary stent in situ
- PMHx
  - Gallstones
  - Cholecystitis
  - HIV
- Peritonism is uncommon and suggests alternative cause, e.g. appendix or ruptured gall bladder

Differential diagnosis of cholangitis

- Cholecystitis
- Other causes of acute jaundice
- CBD gallstone causing obstructive jaundice

Initial management of cholangitis

- Blood tests:
  - Full blood count
  - Urea and electrolytes
  - Clotting
  - Amylase
  - Inflammatory markers
- Blood cultures
  - Usually gram-negative: E.coli, Klebsiella, Enterobacter

- Imaging:
  - AXR - may show ileus or air in biliary tree (e.g. after ERCP; gas-producing organisms; cholecystenteric-fistula)
  - USS - gallstones or dilated ducts
  - CT abdomen
- Prompt IV fluid resuscitation
- Prompt IV antibiotics
  - Broad spectrum with gram-negative cover
  - Often IV Tazocin 4.5g three times daily or IV Meropenem 1g three times daily but check local guidelines or guided by culture sensitivities
- Catheterisation for fluid balance
- These patients are often sick and may need HDU or ITU management

Further management of cholangitis

- MRCP (magnetic retrograde cholangiopancreatography)
- ERCP (endoscopic retrograde cholangiopancreatography)
  - This can be diagnostic and therapeutic as stones can be removed and a sphincterotomy performed at the Sphincter of Oddi to prevent future episodes
  - There is, however, a significant associated morbidity and mortality
    - Pancreatitis (up to 5%)
    - Cholangitis (up to 3.5%)
    - Perforation (up to 0.6%)
    - Death (0.2%)
- Biliary scintography
  - Radio-active substance secreted in bile
  - Can demonstrate an obstruction if diagnosis unsure
- Cholecystectomy
  - All patients with an episode of biliary sepsis secondary to gallstones should be referred to the surgeons for consideration of an elective cholecystectomy once recovered.

Complications of cholangitis

- Septic shock and death
- Intra-abdominal collection

Prognosis of cholangitis

- Acute cholangitis has a high mortality (7-40%),
- Higher mortality in patients with co-morbidities, e.g. elderly, renal failure, cirrhosis, metastatic disease, failure to respond to antibiotics

Common questions concerning cholangitis

What are the common causes of cholangitis?

- Obstruction of biliary tree secondary to gallstones (including Mirizzi's syndrome)
- Infection post-ERCP
- Roundworm or liver fluke infection (common overseas)
- Invasion by tumour: Pancreatic, cholangiocarcinoma, hepatocellular carcinoma, metastases
- HIV cholangiopathy

What is Charcot's triad?
The following make up the classical 'Charcot triad'

- Jaundice
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What is Reynold's pentad?

- Charcot's triad
  - Jaundice
  - Fever
  - RUQ pain - severe
- PLUS
  - Septic shock
  - Confusion

What are the common organisms isolated from blood cultures in cholangitis?

- E.coli (20-25%)
- Klebsiella (10-15%)
- Enterobacter (5-10%)